

Appl. No. 10/070,342
Amnt. dated July 7, 2004
Reply to Office Action of Apr.7, 2004

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Please cancel claims 1-20.

21. (New) A tool for cutting a soft electrically-conductive material, comprising:

a radio-frequency (RF) source electrically connected to an impedance matching circuit comprising a tuning element electrically connected to an inductive element;

said inductive element electrically connected to a conductive cutting tip through a switch-contact area;

wherein said impedance matching circuit is encased by a handheld-sized probe housing, said switch-contact area is of a switch comprising a nonconductive protuberance extending through an aperture in a casing for said switch, said protuberance having at least one surface in contact with a spring-engaged conductive-pathway;

wherein a sufficient force directed against said protuberance causes said conductive-pathway to make contact with said switch-contact area allowing an electric current to flow; and

wherein said conductive-pathway comprises an elongated member; and a stay is incorporated with an inner wall of said switch casing that supports said elongated member until said sufficient force is directed against said protuberance allowing said electric current to flow to said tip.

22. (New) The tool of Claim 21 wherein: said stay comprises a first and second projection against which said elongated member abuts, said projections being affixed to said inner wall in proximity to said switch-contact area; a second end portion of said tip is releasably interconnected to a distal end of said probe housing such that, upon said interconnection, said tip is in electrical communication with said switch-contact area.

23. (New) The tool of claim 21 wherein said RF source is in electrical communication with said tuning element through a cable and a cable-release assembly.

24. (New) The tool of claim 21 wherein the probe housing comprises an electrically insulative layer.

25. (New) The tool of claim 24 wherein the probe housing is generally cylindrical in shape and made of metal, and said insulative layer comprises a dielectric coating thereon.

26. (New) The tool of claim 25 wherein said insulative layer comprises a tubular polymeric shell and said probe housing further comprises an EM-shielding layer adhered to an inner wall of the shell.

27. (New) The tool of claim 21 wherein the cutting tip is releasably engagable to the probe housing.

28. (New) A tool for cutting a soft electrically-conductive material, comprising:

a radio-frequency (RF) source electrically connected to an impedance matching circuit comprising a tuning element electrically connected to an inductive element; and

said inductive element electrically connected to a conductive cutting tip through a switch-contact area;

wherein said impedance matching circuit is encased by a handheld-sized probe housing, and said switch-contact area is encased by said housing, such that activation of an assembly interconnected with said housing allows an electric current to flow within said housing and through said encased impedance matching circuit;

wherein said switch-contact area is of a switch comprising a nonconductive protuberance extending through an aperture in a casing for said switch, said protuberance having at least one surface in contact with a spring-engaged conductive-pathway; wherein a sufficient force directed against said protuberance causes said conductive-pathway to make contact with said switch-contact area allowing an electric current to flow; and

wherein said surface of said protuberance is that of a foot in contact with said spring-engaged conductive-pathway; said conductive-pathway comprises a thin plate member; and said switch-contact area comprises a first and second sub-area each atop, respectively, a first and second ledge secured to said switch casing; and said switch further comprises a spring assembly interposed between said plate member and an inner surface of said

casing.

29. (New) The tool of Claim 28 wherein: said inductive element comprises a transformer to which said first sub-area is electrically connected; a first end of said tip extends outwardly from said housing; a second end portion of said tip is releasably engaged to a distal end of said probe housing; such that, upon said interconnection, said tip is in electrical communication with said second sub-area.

30. (New) The tool of claim 28 wherein said RF source is in electrical communication with said tuning element through a cable and a cable-release assembly.

31. (New) The tool of claim 28 wherein the probe housing comprises an electrically insulative layer.

32. (New) The tool of claim 31 wherein the probe housing is generally cylindrical in shape and made of metal, and said insulative layer comprises a dielectric coating thereon.

33. (New) The tool of claim 32 wherein said insulative layer comprises a tubular polymeric shell and said probe housing further comprises an EM-shielding layer adhered to an inner wall of the shell.

34. The tool of claim 28 wherein the cutting tip is releasably engagable to the probe housing.